Plant Enhancement Activity – PLT02 – Monitoring key grazing areas to improve grazing management

Enhancement Description
Adjust grazing management based on monitoring data. Monitor key grazing areas to determine if current grazing management is meeting management goals and objectives. A key grazing area is a small area of a grazed field that is identified as being representative of the entire field.

Land Use Applicability
Pastureland, Rangeland, Forestland

Benefits
Proper grazing management will maintain and improve vegetation and soil conditions, improve water quality, and enhance wildlife habitat. Monitoring can be utilized to determine if current grazing management actions are having the desired effect on natural resources. Monitoring enables managers to make decisions and adjust management strategies as needed.

Conditions Where Enhancement Applies
This enhancement applies to all acres in the operation for the selected land use.

Criteria
1. Key grazing areas will be established for each grazed field
2. Each key grazing area will be monitored based on the frequency of grazing once established (i.e., more than annually if grazed multiple time per year)
3. Monitoring will include a photo for each pasture of key grazing area and use of one or more of the following techniques:
   a. Plant productivity determinations
   b. Measurements of key forage plant heights (before and after grazing) at least once per period
   c. Locally applicable methods such as those described in “Monitoring for Grasslands, Shrublands and Savanna Ecosystems” available at http://jornada.nmsu.edu/monit-assess/manuals/monitoring
4. Each grazed field will follow a written grazing plan which meets NRCS requirements

Adoption Requirements
This enhancement is considered adopted when there is documentation that monitoring data has been collected and used to adjust the objectives in a grazing management plan.
Documentation Requirements
1. A written grazing plan which meets NRCS requirements,
2. A map showing the location of each key grazing area,
3. Photographs from the fixed photo location points for each monitoring time,
4. Written documentation of the monitoring data collected, and
5. Written documentation of how monitoring data was used to adjust grazing management plans including modifications and objectives.

References


Wisconsin Supplement 2/2/2015

Follow Wisconsin NRCS Conservation Practice Standard 528 (Prescribed Grazing):


Document the occupancy date, length and number of animals for each paddock being monitored.

This is a ‘System’ type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT06 – Renovation of a windbreak, shelterbelt or hedgerow for wildlife habitat

Enhancement Description
This enhancement is for the renovation of existing sites that are declining in vigor, need additional woody plants (trees or shrubs) or otherwise no longer provide wildlife habitat benefits. Existing rows of woody plants may be thinned, removed or replaced with new plantings. Existing woody plants may be pruned, either branches or roots or both, to improve windbreak function, health and vigor.

Land Use Applicability
Cropland, Pastureland, Rangeland

Benefits
Renovation restores the function of existing windbreaks, shelterbelts or hedgerows to provide wildlife habitat benefits as well as other benefits such as reduced wind erosion, including dust bearing pathogens, reduced pesticide drift, mitigation of odor and noise, and controlled snow deposition. Species composition may be upgraded by adding trees or shrubs that produce wildlife food and shelter as well as wood products and visual quality, such as spring blossoms or fall colors. Woody species threatened by pests such as emerald ash borer can be replaced with more resilient species that provide wildlife habitat benefits.

Conditions Where Enhancement Applies
This enhancement applies only to the acres of existing windbreaks or shelterbelts in the crop or pasture land use.

Criteria
1. Identify wildlife species to be benefited by the renovation,
2. Develop a plan for new trees and/or shrubs that will provide the desired habitat and windbreak or shelter belt functions,
3. Remove dead or dying trees that do not provide the desired habitat unless habitat for cavity nesting wildlife is desired,
4. Remove other trees or invasives that do not provide the desired habitat,
5. Replace removed trees by planting new trees or shrubs that will provide the desired habitat while serving the required windbreak or shelter belt function, and
6. Prune or thin less desirable trees to encourage the growth of trees that will provide wildlife habitat and windbreak or shelter belt functions.

Adoption Requirements
This enhancement is considered adopted when all six criteria above have been implemented.
**Documentation Requirements**
1. Brief written description of the tasks completed with dates and any receipts for planting stock, herbicides, etc.,
2. Delineations on a map or aerial photo of renovated windbreak, and
3. Photos of before and after renovation.

**References**


**Wisconsin Supplement 2/2/2015**

Written documentation shall include a summary of the target wildlife species, the soil moisture regime of the site, the type of plants established and establishment methods and an annual summary of any management or weed control activities. Windbreaks shall include an interior row of shrubs which produce nuts or berries usable by wildlife such as species listed in Table 2 of Wisconsin NRCS 645 Wildlife Upland Habitat Management Practice Standard.


This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT15 – Establish pollinator and/or beneficial insect habitat

Enhancement Description
Seed or plug nectar and pollen producing plants in non-cropped areas such as field borders, vegetative barriers, contour buffer strips, grassed waterways, shelterbelts, hedgerows, windbreaks, conservation cover, and riparian forest and herbaceous buffers.

Land Use Applicability
Cropland, Pastureland, Rangeland, Forestland

Benefits
Increased habitat for pollinators will improve fruit set, size and quality, productivity per acre, biodiversity, beneficial insect populations, and the food base for many wildlife species. The increased plant diversity of pollinator habitat will enhance wildlife habitat and may increase populations of other beneficial insects, reducing the need for pesticides.

Conditions Where Enhancement Applies
This enhancement applies to all crop, pasture, range or forest land use acres.

Habitat areas must be at least 0.5 acres for each 40 acres of the selected land use. Where the selected land use is less than 40 acres, the required amount of habitat will be reduced according to the ratio of 0.5 acres to 40 acres. Where the selected land use is greater than 40 acres, the 0.5 acre habitat area(s) may be a single site or interspersed sites in the larger land use area as agreed to by the NRCS State Biologist.

Criteria
Establish habitat for pollinators (A) and beneficial insects (B) as described below:

A. Pollinators
   1. Lists of plants suitable for pollinator habitat will be developed by NRCS at the state level. The lists must emphasize as many native species as practical.
   2. The habitat planting will include (as a minimum) three early, three mid, and three late flowering species from the NRCS state list including forbs, legumes, vines, shrubs, and/or trees. Plants that produce toxic nectar will not be planted.
   3. Any other use of the pollinator habitat area must not compromise its intended purpose.

B. Beneficial insects
   1. Identify pest species and associated beneficial insects targeted for control.
   2. Inventory existing conditions on the farm to determine habitat needs of selected beneficial insects, including:
      a. Permanent insectary sites,
b. Augmentation of existing hedgerows, field boarders or other odd areas adjacent to fields, and/or

c. Trap crop areas.

3. Plant selection should be matched to attract identified beneficial insects.

4. Beneficial insect habitat may include either annual or perennial cover. If annual cover is used, the cover must be replanted each year during the life of the contract.

5. Lists of plants suitable for beneficial insect habitat will be developed by NRCS at the state level. The lists must emphasize as many native species as practical.

C. Planting Criteria for both pollinators and beneficial insects

1. Site selection should consider existing weed pressures and available methods of control, delay planting if high weed pressure requires aggressive treatment.

2. Site preparation and plant establishment shall be accomplished according to the appropriate NRCS conservation practice and specifications.

3. Successful establishment is when the planting is providing at least 80% soil cover, visually estimated, and that the resultant cover consists primarily of the early, mid, and late blooming species planted for pollinators and/or other beneficial insects.

4. Insecticides should not be used in the habitat planting area.

5. Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.

6. After a pollinator enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, the entire site may be mowed in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower).

D. Operation and Maintenance for both pollinators and beneficial insects

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less than 1/3 of the acreage during any given year, except during the first year post-planting.

2. Insecticides should not be used in the habitat planting area. Even non-synthetic botanical insecticides can harm beneficial insects. If adjacent crop areas are treated with insecticides use one or more of the following actions to limit insecticides in the pollinator habitat area:
   a. Create insecticide free buffers in the first 25 feet of crop area,
   b. Use application methods that minimize drift to the adjacent habitat,
   c. Apply active ingredients in the evening when most insect pollinators are not active.

3. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method least damaging method, for example, spot-spraying with herbicide or physical removal.

4. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program’s National List of Allowed and Prohibited Substances may be used.
Adoption Requirements
This enhancement is considered adopted when pollinator or beneficial habitat has been established that meet or exceed the above criteria, respectively, and the established habitat is maintained and functioning as intended.

Documentation Requirements
1. A map showing the location and dimension of the habitat areas
2. A list of pollinator or beneficial species planted
3. List of maintenance activities carried out to manage the habitat areas

References


Scheduling 0.5 acres of this enhancement per 40 acres of the selected land use (as stated on page 1) shall not be a required. The planned amount (i.e. the amount scheduled in the contract to be implemented) can be any acreage amount. The applicable amount as identified in the Conservation Measurement Tool will be based on the ratio of 0.5 acres per 40 acres of the selected land use.

Follow Wisconsin NRCS Conservation Practice Standard 327 (Conservation Cover) and Wisconsin Biology Technical Note 8:


Written documentation shall include a summary of the soil moisture regime of the site, plant species established and method of establishment. An annual written summary of the site management and weed control activities implemented shall be provided.

Reference: Biological Control of Insects and Mites: An introduction to beneficial natural enemies and their use in pest management (UW Extension publication A3842)

http://learningstore.uwex.edu/assets/pdfs/A3842.pdf

This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Monarch butterfly habitat – Provide caterpillar host plants (milkweed) and diverse nectar sources for adult monarch butterflies.

Seed or plug Monarch butterfly larval host plants – milkweed (*Asclepius* spp.) – and high-value monarch butterfly nectar plants into each habitat area implement under this enhancement. Milkweed flowers and monarch nectar plants provide high-value pollen and nectar resources for bees and other pollinators, as well as for beneficial insects that attack crop pests.

**Criteria:**

**A. Habitat criteria**

1. Lists of larval host plant and nectar plants suitable for monarch butterfly habitat will be developed by NRCS at the state level. The lists must emphasize as many native species as practical.
2. The habitat planting will include at least one species of milkweed (*Asclepius* spp.) that is native to the area where the habitat is planted. Tropical milkweed (*Asclepias curassavica*) should not be recommended for use in North America due to potentially fostering disease among monarch populations, and disrupting the southward migration of Monarch butterflies.
3. The habitat planting will include nectar plants whose bloom time coincides with when monarch butterflies are present in the state. Ideally, at least three nectar plants will be sown for each season when monarchs are present. Seasons are defined as spring, summer, and fall.

**B. Planting Criteria for both monarch butterfly habitat**

1. Site selection should consider existing weed pressures and available methods of control; delay planting if high weed pressure requires aggressive treatment.
2. Site preparation and plant establishment shall be accomplished according to the appropriate NRCS conservation practice and specifications.
3. Successful establishment is when the planting is providing at least **80% soil cover**, visually estimated, that the resultant cover consists of at least 450 milkweed stems per acre (approx. 1 stem per each 100 sq. ft.), and successful establishment of at least two targeted nectar plants per bloom period when monarchs are present in the state.
4. Insecticides should not be used in the habitat planting area.
5. Herbicides are allowed during site preparation (prior to planting) when it is necessary to eliminate competing weeds from a planting area in order for nectar and pollen producing plants to establish.
6. After a pollinator enhancement has been planted, herbicides may be spot-sprayed to remove broad-leaf weeds, or grass-selective herbicides may be applied to larger areas to eliminate persistent weedy grasses. Similarly, the entire site may be mowed at 8 to 10
inches high in the first year post-planting to reduce annual or biennial weeds that persist (site should be mowed just before dominant annual weeds flower).

**Operation and Maintenance:**

1. Management and/or maintenance activities such as mowing, haying, burning, or grazing must be conducted outside of the growing season or bloom period. Maintenance should be done on less than 1/3 of the acreage during any given year, except during the first year post-planting.
2. Insecticides should not be used in the habitat planting area. Even non-synthetic botanical insecticides can harm beneficial insects. If adjacent crop areas are treated with insecticides, use one or more of the following actions to limit insecticides in the pollinator habitat area:
   a. Create insecticide free buffers in the first 25 feet of crop area,
   b. Use application methods that minimize drift to the adjacent habitat,
   c. Apply active ingredients in the evening when most insect pollinators are not active.
3. The planted habitat areas must be regularly inspected for invasive and/or noxious plants or other plants that may compromise the purpose of this enhancement. Undesirable species should be controlled using the method least damaging method, for example, spot-spraying with herbicide or physical removal.
4. If habitat is part of an organic farming operation, only materials allowed according to the USDA National Organic Program’s National List of Allowed and Prohibited Substances may be used.

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**Wisconsin Supplement 3/9/15 (PLT15: Ranking Period 1)**

**Approved Milkweed Species for this enhancement include:**
- Common Milkweed (Asclepias syriaca)
- Butterfly Milkweed (Asclepias tuberosa)
- Whorled Milkweed (Asclepias verticillata)
- Prairie Milkweed (Asclepias sullivantii)

**Approved nectar species for enhancement:**
- New England Aster (Symphyotrichum novae-angliae)
- Smooth Blue Aster (Symphyotrichum laeve)
- Showy goldenrod (Solidago speciosa)
- Stiff goldenrod (Solidago rigida)
- Bergamont (Monarda fistulosa)
Plant Enhancement Activity – PLT16 – Intensive management of rotational grazing

**Enhancement Description**

This enhancement is for the harvest efficiency of grazing livestock to increase forage harvest, and to improve forage quality and livestock health. The grazing system is managed to produce high quality, nutritious forage and maintain plants with sufficient energy reserves to recover quickly when adequate soil moisture is available for regrowth. Generally, livestock are rotated through pastures in the grazing system based on the physiological growth and nutritional stage of the forage plants and the daily dry matter intake and nutritional requirements of the animal. This enhancement is for: rotational grazing systems with increased numbers of pastures or paddocks, the accompanying required infrastructure, shorter grazing periods, and increased stock density. Selection of this enhancement requires the activity to be planned concurrently on all eligible land use acres.

**Land Use Applicability**

Pastureland, Rangeland, Forestland

**Benefits**

The main benefits of Intensive Management of Rotational Grazing are efficient resource use with increased forage utilization, improved manure distribution, and nutrient cycling throughout the grazing acreage, and increased carbon sequestration resulting from greater forage harvest. Optimal environmental conditions are achieved by maintaining healthy, actively growing forage plants that improve the quantity and quality of cover available for wildlife and protect the soil surface from erosion, thereby reducing risks to ground or surface water quality.

**Conditions Where Enhancement Applies**

This enhancement applies to all grazed acres designed as pasture, range or forest land use acres on the entire operation.

Note: the grazing acres of the operation must have a defined rotation before selecting this enhancement. A single grazed field/pasture does not constitute a rotation. The minimum number of grazed fields/pastures shall be determined by each state.

**Criteria**

A prescribed grazing plan is developed that increases harvest efficiency by utilizing a 75% increase in the number of pastures/paddocks per movement group (herd). See the attached “Supplement” for specifics on harvest efficiency.
Adoption Requirements
This enhancement is considered adopted when a prescribed grazing plan is complete, and implementation of the plan has begun, that incorporates a 75% increase in the number of pastures/paddocks, including the necessary infrastructure (fences/water/etc.)

Documentation Requirements
1. Copy of signed “National Supplement to Plant Enhancement Activity – PLT 16 – Intensive management of rotational grazing” certifying that a grazing plan has been implemented with a 75% increase in the number of paddocks/pastures for the herd (movement group) increasing the harvest efficiency resulting from greater stock density and reduced grazing time per pasture/paddock.

2. A map or aerial photo showing the pastures/paddocks making up the rotational grazing system. The layout of the pastures/paddocks both before implementation and after implementation shall be delineated on the map or photo.

References


Wisconsin Supplement 2/2/2015

Follow Wisconsin NRCS Conservation Practice Standard 528 (Prescribed Grazing):


This is a ‘System’ type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
United States Department of Agriculture
Natural Resources Conservation Service

2016 Ranking Period 1

National Supplement to Plant Enhancement Activity – PLT 16 – Intensive management of rotational grazing

State: ________________________  Participant: _________________________

Increase harvest efficiency resulting from greater stock density and reduced grazing time per pasture/paddock

Change the current grazing system to allow for an increased number of pastures or paddocks, including the necessary infrastructure (fences/water/etc.), shorter grazing periods, and increased stock density. The grazing plan should document the planned length of grazing periods in pastures and length of time between grazing periods for an overall reduction in total grazing activity per pasture and an increased harvest efficiency resulting from greater stock density and reduced grazing time per pasture/paddock because of the 75% increase in the number of paddocks/pastures for the herd (movement group).

Criteria: Use the following formula for documentation, and attach a plan map showing the location of the grazing system design. The following example is provided.

EXAMPLE:

A. Current # of Pastures/Paddocks  6
B. Planned # of Pastures/Paddocks  11
C. % Increase= ((B/A)-1)100  
   (((11/6)-1)100 = ((1.83)-1)100 = (.83)100% = 83%

Grazing Plan:

A. Current # of Pastures/Paddocks
B. Planned # of Pasture/Paddock
C. % Increase= ((B/A)-1)100

Operation and Maintenance:

Operation: Livestock grazing plans should accommodate increased rest of grazing units, particularly during the active growing season of desirable rangeland and pasture species. Planned grazing use should not exceed 60% of annual production. Additional practices and inputs such as cross fences and water facility development may be required to facilitate adequate rest periods and increased harvest efficiency.

Maintenance: Grazing unit rotation of livestock should be accomplished annually, alternating the planned rotation sequence of grazing units each subsequent year, or specifically providing growing-season rest periods based on individual pasture condition.

Certification:
I certify that I have applied the grazing management system as explained in the narrative in the field(s) and listed in the table above.

Name: ________________________ Date: ________________________
Plant Enhancement Activity – PLT17 – Creating forest openings to improve hardwood stands

Enhancement Description
Creating forest openings or patches is a silvicultural practice used to naturally regenerate over-mature and/or degraded hardwood stands while providing added cover and browse for several game and non-game species of wildlife.

Land Use Applicability
Forestland

Benefits
Years of harvesting high quality hardwood trees have left many forested acres with degraded, low quality trees. Creating a forest opening promotes the regeneration of a new, younger stand of desirable tree species by removing all standing trees in selected areas (patches) within the forest. Patch areas are chosen based on their lack of acceptable growing stock (AGS), presence of desirable trees to regenerate the stand and presence of advanced regeneration. Wildlife habitat is increased by the amount of edge, cover and diversity of the tract created during the clearing.

Conditions Where Enhancement Applies
This enhancement applies to forest land use acres with hardwoods or mixed stands that have a forest management plan that recommends thinning within the next 3 years.

Criteria
1. Forested acres planned for this enhancement must be cleared during the contract period.
2. Forested acres that meet the “Conditions Where Enhancement Applies” must have an “acceptable growing stock” level below 50 sq. ft. of basal area per acre.
3. Site condition must be of medium or higher quality.
4. Forested acres targeted for patch development must contain species for regeneration from the NRCS state list. Species on this list were selected based on their abilities to regenerate from seed, sprouts or other natural regeneration sources.
5. For oaks, advance regeneration must be present or developed prior to the timber removal in order to be competitive with other faster growing species.
6. Size of patches to be treated can vary from 1 to 10 acres, be distributed throughout the forest and cannot total more than 50% of the acres meeting Criteria 2.
7. Trees removed during patch development having marketable quality can be sold.
8. Slash and cull trees must be managed to allow for natural regeneration to occur. This can be accomplished by:
a. Windrowing  c. Chipping  
b. Wildlife piles  d. Cutting for firewood

9. Burning of slash is prohibited.

This enhancement is not for normal thinning or other forest stand improvement activities conducted on non-degraded sites.

**Adoption Requirements**
This enhancement is considered adopted when forest openings have been created that meet the nine above criteria.

**Documentation Requirements**
1. Site suitability and acceptable growing stock evaluation for each patch,
2. Identify the desired species to be regenerated and evidence they are present,
3. Map show where patches are located, and
4. Documentation that patch cut activities were completed, e.g. photo’s, sale receipt.

**References**


**Wisconsin Supplement 2/2/2015**

Forest openings which are 0.5 acres in size may performed. The Forest Management Plan will be used to determine the distribution, size, and number of openings per stand.

Written documentation shall show a history of "high-grading"; or the existing stand is even-aged and the desire is to move to unevenaged management with the stand and shall identify that the acceptable growing stock is less than 50 sq.ft. of basal area/ac.

Management plan shall target Aspen, Oak, Bottomland Hardwood, Central Hardwood, Northern Hardwood or White Birch types.

Sites with high potential for invasive species encroachment are not eligible.

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity - PLT18 – Increasing on-farm food production with edible woody buffer landscapes

Enhancement Description
This enhancement is for the enhancing of windbreaks, alley cropping, silvopasture, or riparian forest buffer systems with trees and shrubs that produce edible products for human or wildlife consumption.

Land Use Applicability
Cropland, Pastureland, Forestland

Benefits
An edible landscape is special in that it is planted with trees and shrubs that produce foods that we can eat/sell or that are beneficial for wildlife. Trees and shrubs can be used to provide shade, to improve microenvironments or to protect crops, or to mitigate challenging environmental issues. In an edible landscape they provide more than just a protective structure, they become sources of food that produce home grown and nutritious fruits and nuts, increase household food security, and create sites that provide critical habitat for pollinators and wildlife.

Conditions Where Enhancement Applies
This enhancement applies to all crop, pasture or forest land use acres.

Criteria
1. Follow appropriate standard for basic agroforestry practice design.
2. For longleaf pine forests, thin and prescribe burn to improve wildlife habitat.
3. Plant tree, shrub and bramble species that produce food and/or culinary items to create an edible landscape. Lists of suitable woody plants will be available at your local NRCS field office.
4. Maximize planting space by creating vertical structure with varying plant heights and plant sizes.
5. Use all of the following methods to improve edible food production:
   a. Add at least one edible food producing row to existing agroforestry practices or incorporate at least one edible food producing row into new planting designs.
   b. Adding planting masses in scattered clusters is encouraged.
   c. Plant a variety of tree, shrub and bramble species (3 or more; use native species whenever possible) with varying flowering times to favor pollinator species and to add a longer harvest time frame. Choosing several fruit bearing cultivars can provide an extended period of seasonal production.
d. Minimize herbicide use. Use spot weed treatments and avoid spraying when flowers are present.

**Adoption Requirements**
This enhancement is considered adopted when each selected acre has been planted to the desired tree, shrub and bramble species that produce food or culinary item. Or in the case of a longleaf pine forest, the stand is thinned to an appropriate density and prescribed burned to enhance and improve wildlife habitat.

**Documentation requirements**
1. List of edible food producing trees, shrubs and brambles.
2. Brief written description of the activities (criteria) completed with dates of application and receipts for planting stock, herbicides, etc.
3. Acreage of the enhancement activity.
4. Delineations on a map or aerial photo of landscape layout and placement.

**References**


**Wisconsin Supplement 12/30/2013**

For establishment recommendations follow Wisconsin Forestry Technical Note 1:


Suitable species include: American Hazelnut, Black Raspberry, Butternut, Common Blackberry, Elderberry, Juneberry, Hawthorn, Highbush Cranberry, Nannyberry, Shagbark Hickory, Sugar Maple, Walnut, Wild Plum; or others as approved by NRCS State Biologist.

This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT19 – Herbicide resistant weed management

Enhancement Description
Adoption of multiple agronomic principles to manage herbicide resistant weeds in annually planted crop fields.

Land Use Applicability
Cropland

Benefits
The number of weed species becoming herbicide resistant is increasing at an alarming rate and other weed species are evolving to possibly become resistant. Without a comprehensive management strategy to control the weeds that have already become herbicide resistant and to mitigate the evolution of potentially resistant weeds, many acres of conservation tilled land may be converted back to conventional tillage. This conversion will reverse the gains achieved over the years by conservation tillage leading to diminished soil health and greater erosion rates. By implementing this enhancement, the identified resource concerns (i.e., soil quality, soil erosion, plants and water quality) will be improved and sustained at a high level by the recommended management system.

Conditions Where Enhancement Applies
This enhancement applies to all acres of annually planted cropland. These acres can be organic, transitioning to organic, or non-organic.

Criteria
1. Develop a crop rotation for each enrolled acre that prevents back to back growing seasons of the same or similar crops on the enrolled acre, or crops grown back to back that utilized the same herbicide chemistry for weed control. If the current crop rotation only contains two crops, an additional crop different from the original two must be added. Exceptions to the crops grown back to back limitation: crops grown using flooded conditions for weed control (i.e., rice, lotus or taro) or new crop rotations developed as a result of this enhancement that utilize a sod base rotation.
2. The crop rotation developed as a result of Criteria #1 must be grown in a manner to maintain a Soil Tillage Intensity Rating (STIR) as determined by RUSLE2 that is lower than the previous rotation/system.
3. Develop a herbicide rotation for each enrolled acre that avoids repeated use of herbicides with the same mode of action (MOA). The same herbicide used independently shall not be used in more than two consecutive applications (i.e., two split applications in a growing season, or two consecutive single applications in two years). An herbicide with the same MOA may be used in tank mixed, prepackaged, or sequential mixtures that include multiple MOAs with substantial control of the potentially resistant weed(s).
4. When herbicides are used for weed control, a pre-plant residual shall be used with any pre-plant burn down herbicide used. Residuals shall be also be used with post-plant burn downs, early post-emerge applications and lay-by applications.

5. Scout the enrolled acreage to facilitate early weed identification, weed mapping of the problems areas, and a more timely response to weed pressures.

6. In the event of herbicide resistant weed escapes on the enrolled acres pre-harvest but after lay-by treatments, hand weed or hoe the escaped weeds prior to flowering.

7. For organic or transitioning to organic systems where a plant ecotype becomes resistant to a NOP approved herbicide, hand weeding or hoeing of the enrolled acres at least 3 times during the growing season shall be accomplished before the weeds reach maturity (i.e., flowering).

8. Post-harvest, where fields will be temporarily fallow and adequate growing conditions exist for weed growth (i.e., pre-frost), the fields shall be mechanically (this does not include tillage) or chemically treated to prevent adding seed to the weed seed bank and weed spread.

Note: If the use of a high residue cover crop or mixtures of high residue cover crops is desired as an additional management option for weed management, refer to “PLT20-High Residue Cover Crop or Mixtures of High Residue Cover Crops for Weed Suppression and Soil Heath.” This enhancement and PLT20 are complementary.

Adoption Requirements
This enhancement is considered adopted when all of the criteria have been met on the land use acre.

Documentation Requirements
Written documentation for each year of this enhancement describing the following items:
1. Crop rotation
2. Crop planting system used to manage residue
3. Scouting reports
4. Herbicides used- their MOA and date of application
5. Dates of hand weeding or hoeing, if applicable
6. Dates of post-harvest chemical or mechanical treatment, if applicable

References


**Wisconsin Supplement 2/2/2015**

For a list of herbicide mode of action for Corn and Soybeans:

http://www.glyphosateweedscrops.org/Info/MOA_060807.pdf

This is a ‘System’ type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT20 – High residue cover crop or mixtures of high residue cover crops for weed suppression and soil health

**Enhancement Description**
Utilize biomass from a cover crop or cover crop mixture as a living or killed mulch to suppress weed seed germination and to add carbon to the terrestrial carbon pool.

**Land Use Applicability**
Cropland

**Benefits**
Cover crop or cover crop mixtures when managed properly can physically and/or chemically control weeds. Physically, a live cover crop competes with weeds for water, nutrients and sunlight. A killed cover crop physically prevents the germination of weed seed by changing the micro environment around the weed seed (temperature and light). Chemically, certain legume, cereal or brassica cover crops suppress weed seed germination and seedling development via plant-produced natural herbicides upon decomposition (i.e., allelopathy). By implementing this enhancement, the major resource concerns of soil quality, soil erosion, plants and water quality will be improved and maintained to a high level.

**Conditions Where Enhancement Applies**
This enhancement applies to all acres of annually planted cropland. These acres can be organic, transitioning to organic, or non-organic.

**Criteria**
1. Between each crop in the rotation, except double cropped situations, seed a high residue cover crop or mixture of high residue cover crops. Each cover crop or mixture shall meet the following requirements:
   a. Seed a cover crop or cover crop mixture at a rate and within a planting date range as determined or agreed to by the NRCS State Agronomist.
   b. Cereal grain cover crops or mixtures shall be top dressed with nitrogen at rates determined or agreed to by the NRCS State Agronomist.
   c. The cover crop or mixture shall reach a maturity level (i.e., growth stage) to ensure 100% soil coverage in the row middles for 3 months of the growing season. For example, cereal rye shall reach the soft dough stage before termination. The NRCS State Agronomist can determine a specified maturity level or desired residue quantity (dry matter basis) for the selected cover crop cultivar.
   d. Termination of all cover crops shall be accomplished by chemical methods, non-chemical methods (such as flail mowing or roller crimper), or a combination of both.
2. The crop rotation must be grown in a manner to maintain a minimum Soil Tillage Intensity Rating (STIR) ≤ 10 as determined by RUSLE2.

Adoption Requirements
This enhancement is considered adopted when all of the criteria have been met on the land use acre.

Documentation Requirements
Written documentation for each year of this enhancement describing the following items:
1. Cover crop or mixture used
2. Cover crop or mixture seeding rate and seeding date
3. If applicable, nitrogen top dress rate and date for the cover crop or mixture
4. Cover crop or mixture termination stage
5. Method used to terminate cover crop or mixture and date of termination

References


Approved cover crop species include: Alfalfa, Annual Ryegrass, Barley (Spring/Wheat), Berseem Clover, Buckwheat, Canola/Rape, Cereal Rye (Winter), Chicory, Cowpea, Crimson Clover, Field Pea, Forage Turnips, Forage/Oilseed Radish, Hairy Vetch, Japanese Millet, Oats, Pea (Winter), Pearl Millet, Red Clover, Sorghum-Sudangrass, Sudangrass, Sunflower, Triticale (Winter), Wheat (Spring/Winter), White Clover; or other species as approved by the NRCS Area Resource Conservationist.

See Wisconsin Agronomy Technical Note 7 for seeding information:


Criteria #1b is optional. For nutrient recommendations see A2809 "Nutrient Application Guidance for Field, Vegetable, and Fruit Crops in Wisconsin"

http://learningstore.uwex.edu/assets/pdfs/A2809.pdf

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT21 – Forest stand improvement pre-treating vegetation and fuels preceding a prescribed fire

**Enhancement Description**
This enhancement is to manage the vegetation and fuels in a forested area with mechanical or manual methods in advance of a prescribed fire AND to complete one or more treatments with prescribed fire during the contract period to restore native forest conditions.

**Land Use Applicability**
Forestland

Credit: John D. Hodges, Mississippi State University, Bugwood.org

**Benefits**
Prescribed burning is a useful tool in the restoration and maintenance of native forest plant communities. However, certain sites preclude the application of prescribed fire due to unsafe conditions caused by excessive amounts and types of fuel present on the site. The implementation of this enhancement will make it possible to safely conduct a controlled burn by mechanically or manually treating this condition prior to a planned burn followed by a prescribed fire to allow regeneration of native forest plants. Other benefits include reduced wildfire risk, improved access, improved wildlife habitat, and enhanced visual quality.

**Conditions Where Enhancement Applies**
This enhancement applies to forest land use acres with conifers or mixed stands that have a forest management plan that recommends a prescribed burn within the next 3 years.

**Criteria**
Develop and implement a prescribed burning plan written and carried out by a certified prescribed burner.

1. The plan must include a thorough assessment of both the existing fuel load and the desired fuel load. See the “References” section for guidance to make these determinations.

2. This enhancement also requires implementation of one or more of the following measures:
   a. Excessive volatile live vegetation pretreatment –When volatile, live grasses and shrubs are present in the area where this enhancement applies in excess of that needed to safely conduct a prescribed burn, reduction of these fuels may be accomplished by shredding, cutting, chipping, mulching, crushing, scattering, removing from the site or any combination of these methods. If this vegetation represents the primary fuel needed to carry a controlled burn in the area, the timing of this measure will be important. Depending on the vegetation, time the reduction to allow for adequate re-growth to supply the amount and continuity needed. If invasive plants are present, utilize methods and timing that will prevent or control their spread.
b. Excessive debris and dead fuels – When excessive amounts of debris and dead fuel exist in the area where this enhancement applies, remove the material from the area by chipping, crushing, shredding, scattering or any combination of these methods.

c. Closed canopy – When the trees within the area where this enhancement applies form a continuous, closed canopy, thin the stand to allow for heat escape and control of prescribed burns. Conduct thinning to space crowns at least 10 – 15 feet apart. Prune flammable limbs to a height of at least 10 feet. Remove slash from the area, scatter or reduce in size by crushing or chipping.

d. Ladder fuels – When ladder fuels form connections between the ground and the higher levels of the canopy in the area where this enhancement applies that make it possible for a fire to spread into the upper canopy, break the continuity of fuel between the ground and the upper canopy position by cutting or snagging. Complete removal is not required as long as the continuity is broken. If excessive amounts of slash are created, remove it from the area, scatter or reduce in size by crushing or chipping.

**Adoption Requirements**
The enhancement is considered adopted when at least one prescribed fire has been implemented on the forest land use acre.

**Documentation Requirements**
1. Brief written documentation detailing the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images of the area showing before and after photos.

**References**


Fire dependent habitat include Oak stands or Jack Pine Barrens.

Follow Wisconsin Conservation Practice 338 (Prescribed Burning):


Written documentation shall include the name and credentials of the individual who developed the prescribed burn plan and documentation of the fuel/weather conditions at the time of burn.

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT22 - Multi-story cropping, sustainable management of nontimber forest plants

Enhancement Description
This activity, sometimes called forest farming, involves the manipulation of forest species composition, structure, and canopy cover to achieve or maintain a desired native plant community to facilitate the sustainable management of native non-timber forest plant(s) (e.g., goldenseal, ramps, mushrooms, ginseng, ferns, “sugarbush”, etc.).

Land Use Applicability
Cropland, Forestland

Conditions Where Enhancement Applies
This enhancement applies to forestland and cropland (sugar bush) where the forest is managed for harvestable non-timber plants in addition or instead of timber.

Benefits
Implementation of this enhancement activity can result in increased plant health and vigor, decreased intensity of pest outbreaks, decreased spread of diseases, decreased use of pesticides and improved water quality.

Criteria
Multi-Story Cropping can cover a wide variety and types of plants and products. Multi-Story Cropping requires the development and implementation of a plan for the manipulation of forest growth through management of the competition for light, nutrients, moisture and control of allelopathic (toxic) effects to promote the production of a nontimber forest plant complex while maintaining a healthy forest ecosystem. The plan will include the following components as a minimum:

1. The objectives of the multi-story cropping enhancement.
2. Maps, images and/or descriptions of the proposed multi-story area.
3. An inventory appropriate to the targeted species of the area to identify trees and understory species necessary to achieve the desired purposes.
4. Listing of management activities that will be used to complete the multi-story cropping such as, but are not limited to, pruning, selective thinning and the introduction of new species to achieve plant diversity or to re-establish native plants.
5. Identification of specific canopy and plant densities in the overstory and understory to achieve the intended purpose(s)
6. The plant community will be diverse to avoid species-specific pests and to enhance wildlife food and habitat.

**Adoption Criteria**
This enhancement is considered adopted when the developed plan for forest growth manipulation has been implemented according to plan’s criteria.

**Documentation Requirements**
1. Brief written description of the actions taken to enhance the multi-story cropping,
2. Delineations on a map or aerial photo of the areas being treated with multi-story cropping, and
3. Representative digital pictures of the overstory and understory plant community following multi-story cropping management activities.

**References**

Forest Farming eXtension Community of Practice. [http://www.extension.org/forest_farming](http://www.extension.org/forest_farming)


**Wisconsin Supplement 2/2/2015**

The following plants species are eligible native non-timber forest products for this enhancement: American hazelnut, huckleberries, currants, elderberries, fern fiddleheads, mushrooms, raspberries, blackberries, serviceberry species, wild leeks, ginseng, goldenseal, Labrador tea, partridge berry, Solomon's seal, wintergreen, witch hazel, "sugarbush".

Other species may be eligible with prior approval from the WI NRCS State Forester.

Only species native to Wisconsin are eligible.

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT23 – Conifer crop tree release

**Enhancement Description**
Conifer Crop Tree Release (CCTR) is a silvicultural technique used to enhance the growth, health and productivity of individual trees, while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics.

**Land Use Applicability**
Forestland

**Benefits**
CCTR speeds the growth of desirable crop trees by selectively cutting or killing less desirable, unmarketable and/or younger competing trees in overstocked forests. Overstocked forests often become unhealthy due to a lack of air circulation and the stress that crowding produces as trees compete for resources. Availability of sunlight is often the most limiting factor for tree growth. When crowns of adjacent trees touch each other, growth rate is reduced. Cutting or killing unwanted trees whose crowns are touching the crown of crop trees provides space for crop tree crown expansion and increases growth. Additional benefits include an increase in ground cover, forage production, reduced wildfire hazard, and wildlife habitat diversity at ground and canopy levels.

**Conditions Where Enhancement Applies**
This enhancement applies to conifer forest land use acres with non-merchantable trees that are crowding potential crop trees in an overstocked forest and which has a Forest Management Plan that recommends a thinning within the next 3 years.

**Criteria**
Implement the following actions:
1. The trees to be removed must not be merchantable, and either:
   a. In a young stands (trees that are too small for market) with average stand size diameters ranging from 4 to 8 inches (measured at 4.5 feet above the ground), or
   b. In a mature stands of trees with an overstocked understory.
2. Develop a CTR plan which includes:
   a. Priority for the most productive forest sites (e.g., site classes I-III) first, and less-productive sites (e.g., site class IV and below) second.
   b. Identifies the number of crop trees to be retained based upon site productivity and the corresponding spacing guide developed within each state for the existing tree species.
   c. Base spacing upon the most abundant tree species, if more than one tree species are present. Suitable species will vary by state or region of the country.
d. Incorporates the landowner’s objectives for the forest. This includes desirable species, with desirable growth form (straightness) and grade (lack of defects).

e. Retain a mixture of tree species to reduce the potential of an epidemic event (e.g. insect outbreak) that may kill some/all trees, as applicable.

3. Implement the following CCTR actions:
   a. Identify and mark crop trees from those trees to be removed. Selection is based on the impact of crowns touching the crop tree’s crown on three or four sides,
   b. Marked trees will be cut for harvest or killed using approved methods within the state,
   c. Trees that are below the crown of the crop tree or in-between and are not affecting the crown will be left to provide protection from wind damage, reduce epicormic branching (unwanted branching on the lower bole), provide diversity for wildlife habitat, and to become the next generation of commercial trees,
   d. All dead or almost dead trees (snags) shall be left standing to provide wildlife habitat, except were snags are a safety hazard (within 100 ft of any building, power line, road, etc.) or if the snag’s present a fire hazard,
   e. Where pockets of dead trees occur, remove all but the 4 largest trees or large trees, >12”dbh and in wood decay classes 2-5 (see below), known as ‘hard snags’. Leave large downed dead wood on the forest floor to benefit wildlife and for nutrient recycling and improved soil quality, except where downed wood is a fire hazard.

   ![Snag and down wood decay classification system](image)

   Snag and down wood decay classification system (Maser et al. 1979)

   f. Comply with state forest laws or Best Management Practices (BMP’s) regarding slash (left over tree tops and/or downed small trees) left on the forest floor.

4. As applicable, additional actions include:
   a. Cutting damaging vines away from crop trees
   b. Treatment of invasive plants that may be stressing crop trees
   c. Pruning side branches of crop trees
Adoption Requirements
This enhancement is considered adopted when each criteria has been implemented on the land use acre.

Documentation Requirements
1. Copy the CCTR plan including the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images/photos of the area showing before and after treatment conditions.

References


Wisconsin Supplement 2/2/2015

This enhancement applies to conifer plantations with average diameters between 4"-8" or a mature stand of trees (conifer or hardwood) with overstocked conifer understory.

This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT24 – Crop tree release in young hardwood stands

Enhancement Description
Crop Tree Release (CTR) in young hardwood stands is a silvicultural technique used to enhance the health and productivity of individual trees, while improving other resources such as wildlife habitat, recreation, timber value, and aesthetics.

Land Use Applicability
Forestland

Benefits
CTR is a practice that speeds the growth of desirable crop trees by selectively cutting or killing less desirable competing trees in younger, overstocked forests. Overstocked forests often become unhealthy due to a lack of air circulation and the stress that crowding produces as trees compete for resources. Availability of sunlight is often the most limiting factor for tree growth. When crowns of adjacent trees touch each other, growth rate is reduced. By cutting/killing unwanted trees whose crowns are touching the crown of crop trees, more space is created for crown expansion. Additional wildlife benefits include increased mast and forage production, and habitat diversification both at ground and canopy levels.

Conditions Where Enhancement Applies
This enhancement applies to hardwood forest land use acres with non-merchantable trees that are crowding potential crop trees in an overstocked forest and which has a Forest Management Plan that recommends a thinning within the next 3 years.

Criteria
Implement the following actions on young, pre-commercial stands (trees that are too small for market), with diameters ranging from 4 to 8 inches (measured at 4.5 feet above the ground). In older, larger diameter forest stands, CTR is a commonly used commercial practice not included in this enhancement.
1. Develop a CTR plan which includes:
   a. Priority for the most productive forest sites (e.g., site classes I-III) first, and less-productive sites (e.g., site class IV and below) second.
   b. Identifies the number of crop trees to be retained based upon site productivity and the corresponding spacing guide developed within each state for the existing tree species.
   c. Base spacing upon the most abundant tree species, if more than one tree species are present. Suitable species will vary by state or region of the country.
   d. Incorporates the landowner’s objectives for the forest. This includes desirable species, with desirable growth form (straightness) and grade (lack of defects).
e. Retain a mixture of tree species to reduce the potential of an epidemic event (e.g., insect outbreak) that may kill some/all trees, as applicable.

2. Identify trees that meet landowner objectives and have good future growth potential. This includes desirable species, with desirable growth form (straightness) and grade (lack of defects).

3. Crop tree crowns should be in the upper level of the forest canopy, and not suppressed by other tree crowns.

4. Mast-producing trees should be favored for retention, both as crop trees and non-competing trees.

5. Dead trees may be left standing to provide wildlife habitat, or cut down to become downed dead wood on the forest floor.

6. Apply to the best forest sites, with a suitable number of desirable trees retained. An average of 25-35 crop trees per acre are needed to merit application of this activity. Suitable species may vary by state or region or according to landowner objectives. Often, species in the white and red oak groups have both a high timber and wildlife value and are a high priority for retention and release.

7. Cut or kill all trees whose crowns touch the crown of the crop tree on three to four sides. Special note: cut/kill only those trees whose crowns are affecting the crop trees. Trees that are not touching a crop tree crown or are below a crop tree crown should be retained. These additional trees help to protect crop trees from wind damage and epicormic branching (unwanted branching on the lower bole), and provide diversity for wildlife habitat.

8. As applicable, additional actions include:
   a. Cutting damaging vines away from crop trees
   b. Treatment of invasive plants that may be stressing crop trees
   c. Pruning side branches of crop trees

**Adoption Requirements**
This enhancement is considered adopted when each criteria has been implemented on the land use acre.

**Documentation Requirements**
1. Copy the CTR plan including the pre-treatment conditions and the post-treatment conditions.
2. Representative digital images/photos of the area showing before and after treatment conditions.

**References**


Perkey, A.W.; Wilkins, B.L.; and Smith, H.C. 1994. Crop tree management in eastern hardwoods. NATP-19-93. USDA Forest Service, Northeastern Area State and Private Forestry, Morgantown, WV.
Wisconsin Supplement 2/2/2015 (PLT24: 2016 Ranking Period 1)

This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT25 – Prune low density pine or hardwood trees to improve tree quality and wildlife habitat

Enhancement Description
This enhancement is to enrich the health and productivity of individual trees, while improving other resources such as recreation, timber value, and aesthetics through the use of a silvicultural technique—pruning.

Land Use Applicability
Forestland

Benefits
Pruning improves tree quality by training the tree to a single straight stem and developing more valuable knot free trunks, and allowing sunlight to the forest floor stimulating herbaceous plants. The activity may also reduce wildfire hazard by removing ladder fuels.

Conditions Where Enhancement Applies
This enhancement applies to all forest land use acres.

Criteria
Implement the following:
1. Apply to young hardwood or pine stands with low density stocking (i.e., less than 400 trees/acre) which have a significant number of branches within 8 feet of the ground, indicating that natural pruning is not occurring.
2. Apply proper pruning techniques:
   a. Cut only the branch wood leaving the trunk wood to grow over and close the pruning wound.
   b. The three-cut method shown below reduces the risk of the pruned branch peeling trunk bark off as it falls.
3. Prune a minimum of 75 crop trees/acre with straight trunks to a minimum of 8 feet with live healthy crowns.
4. Leave a live crown ratio of at least 33 percent live crown
5. Use pruning saws or loppers
6. Prune during the dormant season

Adoption Requirements
The enhancement is considered adopted when the above criteria has been applied on the land use acre.

Documentation Requirements
1. Inventory of trees to be pruned (species, number per acre)
2. Map locating the forested area(s) that pruning activities were performed.
3. Representative digital images/photos of the area showing before and after treatments.

References


Wisconsin Supplement 2/2/2015
This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT26 – Forest stand improvement to treat understory vegetation to minimize the risk of damaging wildfires, and/or manipulate the density and composition of tree species to improve wildlife habitat and forest health

Enhancement Description
This enhancement is to manage the understory vegetation in a forested area with mechanical, chemical or manual methods to reduce the fuel load to lessen the risk of a wildfire, improve the plant species mix to benefit wildlife or to improve the health of the residual trees.

Land Use Applicability
Forestland

Benefits
Managing understory vegetation improves the overall health of residual trees and the plant community available for wildlife. However, many forests are not being maximally managed regarding quality wood production or wildlife habitat. On average, undesirable or cull trees occupy one-third of the total growing space in pine-hardwood and hardwood stands. To improve forest management, forest stand improvement (FSI) activities can be used to remove trees of undesirable form, quality, condition, growth rate, or species. Consequently, the quantity and quality of forest for wildlife and/or timber production will increase by manipulating stand density and structure. FSI is also used to reduce wildfire hazards, improve forest health, restore natural plant communities, achieve or maintain a desired native understory plant community for wildlife, grazing, and/or browsing.

Conditions Where Enhancement Applies
This enhancement applies to all forest land use acres.

Criteria
Implement the following:
1. Apply to sites which have a dense understory of shrubs and small trees, continuous “ladder-like” vegetation such as vines and small trees that allow fires to climb, a hazardous buildup of vegetative fuel and a lack of firebreaks throughout the property.
2. Develop a forest management plan in consultation with NRCS personnel and a professional forester, wildlife biologist or consultant to direct the management of the property.
3. The acres planned must have an “acceptable growing stock” level of 50 basal area or higher.
4. Vegetation may be treated by chemical methods such as spraying or single stem treatments or mechanical methods like mulching, mowing, chainsaws or small dozer methods.
5. Acres targeted for understory control must contain desirable species, residual trees to be left after the treatment.
6. This enhancement requires implementation of one or more of the following measures:
   a. Excessive volatile live vegetation pretreatment – When volatile, live grasses and shrubs are present in the area where this enhancement applies then a reduction of these fuels may be accomplished by shredding, cutting, chipping, mulching, crushing, scattering, removing from the site or any combination of these methods.
   b. Excessive debris and dead fuels – When excessive amounts of debris and dead fuel exist in the area where this enhancement applies, remove the material from the area by chipping, crushing, shredding, scattering or any combination of these methods.
   c. Closed canopy – When the trees within the area where this enhancement applies form a continuous, closed canopy, thin the stand to allow for heat escape and to improve the health of the residual trees. Reduce the canopy by cutting or deadening selected trees to allow sunlight to reach the forest floor. Reduce slash from the cut trees by cutting off the limbs or by crushing or chipping. An alternative is to use single tree injections to reduce poor quality trees and open up the canopy.
   d. Ladder fuels – When ladder fuels form connections between the ground and the higher levels of the canopy in the area where this enhancement applies that make it possible for a fire to spread into the upper canopy, break the continuity of fuel between the ground and the upper canopy position by cutting or breaking the continuity. Complete removal is not required as long as the continuity is disrupted.
   e. Undesirable Vegetation – Control measures to reduce or eliminate undesirable vegetation and favor vegetation beneficial for wildlife.

7. Residual trees must have damage minimized when the treatments are being conducted.
8. If machinery is being used, operate under good conditions and not when the machinery will cause rutting and soil compaction.
9. Do not utilize this enhancement for normal thinning practices.

Adoption Requirements
The enhancement is considered adopted when forest understory has been treated or the canopy has been reduced on the land use acre.

Documentation Requirements
1. Site suitability (from WebSoil Survey) and acceptable growing stock left on the site (from a field inventory)
2. Map delineating the treated areas, dates completed and their size
3. The method utilized
4. Evidence to support the treatment activities were completed, including representative photos, receipt from contractor etc. Location of representative photos must be indicated on the map required in #2.

References
Wisconsin Supplement 2/2/2015

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT27 – Create small openings in pine stands to improve wildlife habitat or to prepare the area for natural regeneration

Enhancement Description
This enhancement is to create small openings in pine stands (i.e., one-half (0.5) to three (3) acres in size). The cleared area will have the vegetation removed through harvesting, mulching, or means compatible with the site.

Land Use Applicability
Forestland

Benefits
The creation of small openings in a conifer forest has multiple positive effects. Small openings provide a diverse habitat for wildlife and the areas receive sunlight favoring the natural regeneration of pine species. Natural regeneration provides a low initial cost method to establish the future forest.

Conditions Where Enhancement Applies
This enhancement applies to conifer and mixed forest land use acres.

This enhancement is not for normal thinning or other forest stand improvement activities conducted on non-degraded sites.

Criteria
Implement the following:
1. Apply to sites which have a closed canopy and little beneficial plants in the understory.
2. Develop a forest management plan in consultation with NRCS personnel and a professional forester, wildlife biologist or consultant.
3. Create the forest opening by the third fiscal year of the contract.
4. Select sites with an “acceptable growing stock” level of 50 basal area or higher and the site condition must be of medium or higher quality.
5. Selected sites must contain regenerative pine species included on the NRCS state list. Pine species on this list were selected based on their abilities to regenerate from seed.
6. Create openings to have varying sizes. Sizes shall be between one-half (0.5) to three (3) acres, be distributed throughout the forest and be within the range of 10 percent to not total more than 50 percent of the land use acres.
7. Minimize damage to residual trees when the openings are being created and prepared.
8. Slash and cull trees must be managed to allow for natural regeneration to occur. This can be accomplished by:
   a. Windrowing
   b. Wildlife piles
c. Chipping
d. Cutting for firewood
e. Mowing
f. Spraying herbicides to control less desirable plant species

Note: Burning of slash must be accomplished by a certified prescribed burner following a burn plan.

Note: Trees removed for this activities’ purpose having marketable quality can be sold.

Adoption Requirements
The enhancement is considered adopted when forest openings have been created that meet the above criteria on the land use acre.

Documentation Requirements
1. Site suitability (from WebSoil Survey) and acceptable growing stock evaluation for each path (from a field inventory)
2. Map delineating the treated areas, dates completed and their size
3. The method utilized
4. Evidence to support the treatment activities were completed, including representative photos, receipt from contractor etc. Location of representative photos must be indicated on the map required in #2.

References


Moorhead, D.J. 1999. Regenerating Southern Pine in Georgia. University of Georgia School of Forest Resources Extension Circular 0775. Athens, GA.

Wisconsin Supplement 2/2/2015


This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT28 – Prescribed burning to promote and enhance conifer forests and maintain a healthy understory

Enhancement Description
This enhancement is to conduct a single prescribed burn in a conifer forest, but to only burn portions of the area each year creating a patchwork burn. The patchwork of burning creates a diverse habitat in several stages of development.

Land Use Applicability
Forestland

Benefits
Many species of conifers and their associated plant community have been associated with periodic burning. The health of conifer forests, longleaf pines in particular, and the appropriate understory is dependent upon fire or some other means of control to minimize woody vegetation and favor the herbaceous plant community. A healthy longleaf pine forest, as well as shortleaf pine forests or other pine species, supports a wide array of wildlife species including pollinators and several endangered or threatened species.

Conditions Where Enhancement Applies
This enhancement applies to conifer forest land use acres.

Criteria
Implement the following:
1. Develop a forest management plan in consultation with NRCS personnel and a professional forester, wildlife biologist or consultant.
2. Develop a prescribed burn plan which supports the forest management plan.
3. Selected areas of the enrolled land use acres must be burned annually for a minimum of three consecutive years to create a mosaic burning patchwork.
4. Re-burning of selected areas during the consecutive year period is prohibited.
5. Over the consecutive year period, all acres will be burned.
6. Firebreaks must be prepared in advance of the prescribed burning and in accordance with the prescribed burn plan and forest management plan.
7. Prescribed burning must follow state and federal regulations and appropriate agencies notified prior to the burn.
8. The prescribed burn must be implemented by a certified prescribed burner following the burn plan.

Adoption Requirements
The enhancement is considered adopted when the above criteria have been applied to the land use acre.
Documentation Requirements
1. Copy of the forest management plan
2. Copy of the prescribed burning plan
3. Stand map showing the location of the tract and the portions to be burned each year.
4. Documentation of the dates of the prescribed burn and other activities.
5. Documentation that prescribed burn was completed, e.g. photos, receipt for contractor or state forestry agency.

References
Alabama Forestry Commission. Prescribed Burning Longleaf Pine PBLP022704


Wisconsin Supplement 2/2/2015

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.
Plant Enhancement Activity – PLT29 – Rehabilitating damaged or cut over stands

Enhancement Description
This enhancement is designed to restore a forest that has been damaged or cut-over leaving very few desirable trees along with undesirable tree species. Action will be taken to reduce the undesirable tree species and promote the desirable tree species. Over time, the favoring of desirable species will bring the stand back to a productive and healthy forest.

Land Use Applicability
Forestland

Benefits
A forest restored from a degraded condition to a healthy, well-stocked forest will have habitat for wildlife and vegetative cover to protect the soil and filter water.

Conditions Where Enhancement Applies
This enhancement applies to forest land use acres damaged by wildfires, high winds, ice, insects or past cutting practices that did not lead to adequate regeneration of desirable trees.

Criteria
Implement the following:
1. Identify the targeted area to restore.
2. Develop a forest management plan which details the prescription needed to restore the affect area.
3. Identify the site condition to be used in the selection of the desirable trees and/or shrubs.
4. Evaluate the area to determine the appropriate forestry practices to use to help restore the targeted area.
5. Conduct or halt the restoration activities when the site conditions will not cause further damage, rutting or soil compaction.
6. Favor trees and shrubs that are suited for the site, are of good quality to improve the residual forest and are desirable for the forest’s objective.
7. Less desirable trees and shrubs must be removed or reduced to allow space and nutrients to the residual trees and shrubs.
8. Documentation of activities and photo points should be established to view the changes in the forest over time.

Adoption Requirements
The enhancement is considered adopted when the criteria above have been implemented on the land use acre.

October 29, 2014
**Documentation Requirements**

1. Site suitability  
2. Trees and/or shrubs species to promote.  
3. The activities used to restore the subject area (i.e., cutting, mowing, pruning, spot spraying, single stem injection, etc.)  
4. A map showing where the treatments occurred, and  
5. Documentation that treatment activities were completed (e.g., photos, receipt for contracting services or diary of activities completed by the landowner).

**References**


Clatterbuck, W. K. Treatments for improving degraded hardwood stands. UT Extension Publication SP680, also published at Professional Hardwood Note #6 for Tennessee and Kentucky

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**Wisconsin Supplement 2/2/2015**

This is an 'Actual' type enhancement. Actual type enhancements must be installed in the year(s) scheduled in the contract and maintained for the duration of the contract.
Plant Enhancement Activity – PLT30 – Monitor pasture health using pasture condition scores (PCS)

**Enhancement Description**
Evaluate current pasture productivity and stability of the plant community and soil resources; and utilize the information for management decision making.

**Land Use Applicability**
Pasture

**Benefits**
A well-managed pasture is one whose productivity (plant and animal) is optimized while it does no harm to soil, water, and air quality. Pasture condition scoring is a systematic way to check how well a pasture is managed. By rating 10 key indicators and causative factors common to all pastures, pasture condition can be evaluated and the primary reasons for a low condition score can be identified. The key indicators are percent desirable plants; plant cover; plant diversity; plant residue; plant vigor; percent legume; uniformity of use; livestock concentration areas; soil compaction and erosion.

**Conditions Where Enhancement Applies**
This enhancement applies to all pasture land use acres.

**Criteria**
1. A baseline pasture condition assessment will be completed with the assistance of a conservationist using the national pasture condition score card.
2. Random transects will be taken using the step-point method. Transects should be conducted within the same landscape position and forage suitability group.
3. One of the indicator factors is plant vigor. If the pasture scores less than a 4 for plant vigor, a causative factor form will be completed. One of the items that directly relates to plant vigor is fertility. Therefore, the producer will provide a current soils test.
4. Monitor the health of the pastures by conducting at least quarterly pasture condition assessments (transects).
5. Implement conservation practices which improve the PCS to the target PCS set by your state.
   a. If the initial PCS is greater than or equal to the target PCS, then the initial PCS must be improved by at least 5 percent.

**Adoption Requirements**
This enhancement is considered adopted when the land use acre has received conservation activities which improved the baseline PCS to a final PCS determined by each state.
**Documentation Requirements**

1. Baseline Pasture Condition Score Sheet
2. Final Pasture Condition Score Sheet
3. Prescribed Grazing Plan
4. Record Keeping Book which includes
   5. Type, size and number of livestock
   6. Number of days pasture was grazed
   7. Height of forage prior to grazing
   8. Height of forage after grazing
   9. Pictures of livestock
   10. Pictures of forage

**References**


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**Wisconsin Supplement 2/2/2015**

Follow Wisconsin NRCS Conservation Practice Standard 528 (Prescribed Grazing) and complete a Pasture Condition Score Sheet three times during the grazing season; once each in spring, summer and fall.


Establish a baseline pasture condition score during the first year. If the score is below the Wisconsin target of 35, implement conservation practices to improve it to a 35. If the baseline is above 35, conservation practices must be implemented to improve the score by 5 percent.

This is a 'System' type enhancement. This enhancement shall be performed on the areas (i.e. fields) identified in the Conservation Stewardship Plan each year when appropriate to do so.